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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,731	04/09/2004	Yu-Jen Chuang	250122-1470	1519
24504	7590	08/31/2005	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			CARTER, WILLIAM JOSEPH	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



**Office Action Summary**

Application No.

10/821,731

Applicant(s)

CHUANG ET AL.

Examiner

William J. Carter

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-14 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/09/05</u> | 6) <input type="checkbox"/> Other: ____  |



## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the enforced heat dissipation device and fan (claims 5 and 6) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.



***Specification***

The disclosure is objected to because of the following informalities:

On page 1, lines 16 and 19, the word "is" or "must" should be deleted.

The sentence on page 1, lines 23-25, is confusing and the examiner requests an explanation or rewording.

Appropriate correction is required.

***Claim Objections***

Claim 1 is objected to because of the following informality:

Claim 1 lacks antecedent basis for "the surface" on line 7.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by  
Mai (6,871,979).



With respect to claim 1, Mai shows, a direct backlight module comprising: a first plate (50); a second plate (46) connected to the first plate forming a space between (Fig. 2); a plurality of light sources (44) disposed in the space; and a third plate (52) with a plurality of openings (58) disposed outside the spaced connected to the surface of the first plate.

As for claim 2, Mai shows, the direct backlight module wherein the first plate comprises: a plurality of protrusions; and a plurality of recesses, wherein the plurality of protrusions and recesses are alternately arranged, and the plurality of light sources are disposed in the plurality of recesses (Fig. 2).

As for claim 3, Mai shows, the backlight module wherein the plurality of openings (58) are disposed corresponding to the plurality of protrusions and form a plurality of channels (Fig. 2).

As for claim 8, Mai shows, the backlight module wherein the cross-section of the plurality of protrusions and recesses is trapezoidal-shaped (Fig. 6).

AS for claim 9, Mai shows, the backlight module wherein the cross-section of the plurality of protrusions and recesses is triangular-shaped (Fig. 2).

As for claim 10, Mai shows, the backlight module wherein the first plate is a reflector plate (50).

As for claim 11, Mai shows, the backlight module wherein the second plate is a diffusion plate (46).

As for claim 13, Mai shows, the backlight module wherein the plurality of light sources (44) are lamps.



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mai in view of Yamamoto (5,993,027).

Mai teaches all of the claimed elements, as disclosed above, except for the backlight module further comprising an enforced heat dissipation device wherein the device is a fan. Yamamoto, drawn to backlight modules, teaches the use of a fan for enforced heat dissipation (column 3, lines 31-35). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use the teaching of a fan for enforced heat dissipation of Yamamoto in the direct backlight module of Mai, in order to better diffuse heat accumulated within the housing (column 3, lines 19-21).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mai in view of Kratz (4,641,226).

Mai teaches all of the claimed elements, as disclosed above, except for the height of each protrusion being lower than the center line of the light sources near the protrusion. Kratz, drawn to linear light sources, teaches in figure 1, the height of each reflector protrusion (21-24) is lower than the center line of the light sources (11-17) near the protrusion. It would have been obvious to one of ordinary skill in the art, at the time



Art Unit: 2875

of the invention, to use the teaching of reflector protrusion relationships with light sources of Kratz in the direct backlight module of Mai, in order to deflect and guide throughbetween the light sources as great a portion as possible of the radiation emitted towards the reflectors (column 3, lines 43-46).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mai in view of Liao (6,789,923).

Mai teaches all of the claimed elements, as disclosed above, except wherein the third plate is a metal plate. Liao, drawn to backlights, teaches the use of a metal plate (33) in a backlight module. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use the teaching of metal plates of Liao in the direct backlight module of Mai, in order to create a heat conductive plate (column 3, lines 22-24).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mai in view of Adachi (6,883,950).

Mai teaches all of the claimed elements, as disclosed above, except for the backlight module further comprising: a first diffuser disposed on the second plate; a prism disposed on the first diffuser; and a second diffuser disposed on the prism. Adachi, drawn to plane-lighting units, teaches in figure 1, a diffuser disposed on the second plate (710), a prism disposed on the first diffuser (800), and a second diffuser disposed on the prism (720). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use the teaching of a prism layer disposed between two diffusion plates of Adachi in the direct backlight module of Mai, in order to achieve



Art Unit: 2875

uniformity in the outgoing angle distribution of the light with has passed through the optical path changing means (column 11, lines 19-23).

***Allowable Subject Matter***

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or suggest the backlight module wherein the third plate comprises a plurality of flexible portions respectively connected to the sides of the channels.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Carter whose telephone number is (571)272-0959. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee S. Luebke can be reached on (571)272-2009. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 2875

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

wjc  
08/12/05



RENEE LUEBKE  
PRIMARY EXAMINER